

TABLE OF PACKING METHODS—Continued

Packing instruction	Inner packagings	Intermediate packagings	Outer packagings
144	Receptacles	Not necessary	Boxes. Drums. steel, removable head (1A2). aluminium, removable head (1B2). plastics, removable head (1H2). Plywood (1D). 2steel (4A). aluminum (4B). wood, natural, ordinary (4C1) with metal liner. plywood (4D) with metal liner. reconstituted wood (4F) with metal liner. plastics, expanded (4H1). plastics, solid (4H2).
PARTICULAR PACKING REQUIREMENTS OR EXCEPTIONS: For UN 0248 and UN 0249, packagings must be protected against the ingress of water. When CONTRIVANCES, WATER ACTIVATED are transported unpackaged, they must be provided with at least two independent protective features which prevent the ingress of water	fibreboard metal plastics Dividing partitions in the outer packagings.	
US 1			
<p>1. A jet perforating gun, charged, oil well may be transported under the following conditions:</p> <p>a. Initiation devices carried on the same motor vehicle or offshore supply vessel must be segregated; each kind from every other kind, and from any gun, tool or other supplies, unless approved in accordance with § 173.56. Segregated initiation devices must be carried in a container having individual pockets for each such device or in a fully enclosed steel container lined with a non-sparking material. No more than two segregated initiation devices per gun may be carried on the same motor vehicle.</p> <p>b. Each shaped charge affixed to the gun may not contain more than 112 g (4 ounces) of explosives.</p> <p>c. Each shaped charge if not completely enclosed in glass or metal, must be fully protected by a metal cover after installation in the gun.</p> <p>d. A jet perforating gun classed as 1.1D or 1.4D may be transported by highway by private or contract carriers engaged in oil well operations.</p> <p>(i) A motor vehicle transporting a gun must have specially built racks or carrying cases designed and constructed so that the gun is securely held in place during transportation and is not subject to damage by contact, one to the other or any other article or material carried in the vehicle; and</p> <p>(ii) The assembled gun packed on the vehicle may not extend beyond the body of the motor vehicle.</p> <p>e. A jet perforating gun classed as 1.4D may be transported by a private offshore supply vessel only when the gun is carried in a motor vehicle as specified in paragraph (d) of this packing method or on offshore well tool pallets provided that:</p> <p>(i) All the conditions specified in paragraphs (a), (b), and (c) of this packing method are met;</p> <p>(ii) The total explosive contents do not exceed 90.8 kg (200 pounds) per tool pallet;</p> <p>(iii) Each cargo vessel compartment may contain up to 90.8 kg (200 pounds) of explosive content if the segregation requirements in § 176.83(b) of this subchapter are met; and</p> <p>(iv) When more than one vehicle or tool pallet is stowed "on deck" a minimum horizontal separation of 3 m (9.8 feet) must be provided.</p>			

[Amdt. 173-260, 62 FR 24720]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 173.62, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at www.fdsys.gov.

§ 173.63 Packaging exceptions.

(a) Cord, detonating (UN 0065), having an explosive content not exceeding 6.5 g (0.23 ounces) per 30 centimeter length (one linear foot) may be offered for transportation domestically and transported as Cord, detonating (UN 0289), Division 1.4 Compatibility Group D (1.4D) explosives, if the gross weight of all packages containing Cord, deto-

nating (UN 0065), does not exceed 45 kg (99 pounds) per:

- (1) Transport vehicle, freight container, or cargo-only aircraft;
- (2) Off-shore down-hole tool pallet carried on an off-shore supply vessel;
- (3) Cargo compartment of a cargo vessel; or
- (4) Passenger-carrying aircraft used to transport personnel to remote work sites, such as offshore drilling units.

(b) *Limited quantities of Cartridges, small arms, and cartridges power devices.*

(1)(i) Cartridges, small arms, and Cartridges power device (used to project fastening devices), that have been classed as Division 1.4S explosive may be offered for transportation and transported as limited quantities when packaged in accordance with paragraph (b)(2) of this section. For transportation by aircraft, the package must conform to the applicable requirements of §173.27 of this part and, effective July 1, 2011, Cartridge, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as limited quantity material. Effective January 1, 2012, Cartridge, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as limited quantity material for transportation by highway, rail or vessel. Packages containing such articles must be marked as prescribed in §172.315. Packages containing such articles are not subject to the shipping paper requirements of subpart C of part 172 of this subchapter unless the material meets the definition of a hazardous substance, hazardous waste, marine pollutant, or is offered for transportation and transported by aircraft or vessel. Additionally, packages containing these articles are excepted from the requirements of subparts E (Labeling) and F (Placarding) of part 172 of this subchapter.

(ii) Until December 31, 2012, a package containing such articles may be marked with the proper shipping name “Cartridges, small arms” or “Cartridges, power device (*used to project fastening devices*)” and reclassified as “ORM–D–AIR” material if it contains properly packaged articles as authorized by this subchapter on October 1, 2010. Additionally, for transportation by aircraft, Cartridge, power devices must be successfully tested under the UN Test Series 6(d) criteria for reclassification as ORM–D–AIR material effective July 1, 2011. Until December 31, 2013, a package containing such articles may be marked with the proper shipping name “Cartridges, small arms” or “Cartridges, power device (*used to project fastening devices*)” and reclassified as “ORM–D” material if it

contains properly packaged articles as authorized by this subchapter on October 1, 2010.

(iii) Cartridges, small arms and Cartridges power devices that may be shipped as a limited quantity or ORM–D material are as follows:

(A) Ammunition for rifle, pistol or shotgun;

(B) Ammunition with inert projectiles or blank ammunition;

(C) Ammunition having no tear gas, incendiary, or detonating explosive projectiles;

(D) Ammunition not exceeding 12.7 mm (50 caliber or 0.5 inch) for rifle or pistol, cartridges or 8 gauge for shotshells; and

(E) Cartridges, power devices which are used to project fastening devices.

(2) Packaging for Cartridges, small arms and eligible Cartridge, power devices as limited quantity or ORM–D material must be as follows:

(i) Ammunition must be packed in inside boxes, or in partitions which fit snugly in the outside packaging, or in metal clips;

(ii) Primers must be protected from accidental initiation;

(iii) Inside boxes, partitions or metal clips must be packed in securely-closed strong outside packagings;

(iv) Maximum gross weight is limited to 30 kg (66 pounds) per package; and

(v) Cartridges, power devices which are used to project fastening devices and 22 caliber rim-fire cartridges may be packaged loose in strong outside packagings.

(c)–(e) [Reserved]

(f) Detonators containing no more than 1 g explosive (excluding ignition and delay charges) that are electric blasting caps with leg wires 4 feet long or longer, delay connectors in plastic sheaths, or blasting caps with empty plastic tubing 12 feet long or longer may be packed as follows in which case they are excepted from the packaging requirements of §173.62:

(1) No more than 50 detonators in one inner packaging;

(2) IME Standard 22 container (IBR, see §171.7 of this subchapter) or compartment is used as the outer packaging;

(3) No more than 1000 detonators in one outer packaging; and

(4) No material may be loaded on top of the IME Standard 22 container and no material may be loaded against the outside door of the IME Standard 22 compartment.

(g) Detonators that are classed as 1.4B or 1.4S and contain no more than 1 g of explosive (excluding ignition and delay charges) may be packed as follows in which case they are excepted from the packaging requirements of § 173.62:

- (1) No more than 50 detonators in one inner packaging;
- (2) IME Standard 22 container is used as the outer packaging;
- (3) No more than 1000 detonators in one outer packaging; and
- (4) Each inner packaging is marked "1.4B Detonators" or "1.4S Detonators", as appropriate.

[Amdt. 173-224, 55 FR 52617, Dec. 21, 1990, as amended at 56 FR 66268, Dec. 20, 1991; Amdt. 173-236, 58 FR 50536, Sept. 24, 1993; Amdt. 173-253, 61 FR 27175, May 30, 1996; 68 FR 75743, Dec. 31, 2003; 71 FR 14602, Mar. 22, 2006; 76 FR 3371, Jan. 19, 2011]

Subpart D—Definitions Classification, Packing Group Assignments and Exceptions for Hazardous Materials Other Than Class 1 and Class 7

SOURCE: Amdt. 173-224, 55 FR 52634 Dec. 21, 1990, unless otherwise noted.

§ 173.115 Class 2, Divisions 2.1, 2.2, and 2.3—Definitions.

(a) *Division 2.1 (Flammable gas)*. For the purpose of this subchapter, a *flammable gas* (Division 2.1) means any material which is a gas at 20 °C (68 °F) or less and 101.3 kPa (14.7 psia) of pressure (a material which has a boiling point of 20 °C (68 °F) or less at 101.3 kPa (14.7 psia)) which—

- (1) Is ignitable at 101.3 kPa (14.7 psia) when in a mixture of 13 percent or less by volume with air; or
- (2) Has a flammable range at 101.3 kPa (14.7 psia) with air of at least 12 percent regardless of the lower limit. Except for aerosols, the limits specified in paragraphs (a)(1) and (a)(2) of this section shall be determined at 101.3 kPa (14.7 psia) of pressure and a temperature of 20 °C (68 °F) in accordance with the ASTM E681-85, Standard Test

Method for Concentration Limits of Flammability of Chemicals or other equivalent method approved by the Associate Administrator. The flammability of aerosols is determined by the tests specified in paragraph (1) of this section.

(b) *Division 2.2 (non-flammable, non-poisonous compressed gas—including compressed gas, liquefied gas, pressurized cryogenic gas, compressed gas in solution, asphyxiant gas and oxidizing gas)*. For the purpose of this subchapter, a non-flammable, nonpoisonous compressed gas (Division 2.2) means any material (or mixture) which—

- (1) Exerts in the packaging a gauge pressure of 200 kPa (29.0 psig/43.8 psia) or greater at 20 °C (68 °F), is a liquefied gas or is a cryogenic liquid, and
- (2) Does not meet the definition of Division 2.1 or 2.3.

(c) *Division 2.3 (Gas poisonous by inhalation)*. For the purpose of this subchapter, a *gas poisonous by inhalation* (Division 2.3) means a material which is a gas at 20 °C (68 °F) or less and a pressure of 101.3 kPa (14.7 psia) (a material which has a boiling point of 20 °C (68 °F) or less at 101.3 kPa (14.7 psia)) and which—

- (1) Is known to be so toxic to humans as to pose a hazard to health during transportation, or
- (2) In the absence of adequate data on human toxicity, is presumed to be toxic to humans because when tested on laboratory animals it has an LC₅₀ value of not more than 5000 mL/m³ (see § 173.116(a) of this subpart for assignment of Hazard Zones A, B, C or D). LC₅₀ values for mixtures may be determined using the formula in § 173.133(b)(1)(i) or CGA P-20 (IBR, see § 171.7 of this subchapter).

(d) *Non-liquefied compressed gas*. A gas, which when packaged under pressure for transportation is entirely gaseous at -50 °C (-58 °F) with a critical temperature less than or equal to -50 °C (-58 °F), is considered to be a non-liquefied compressed gas.

(e) *Liquefied compressed gas*. A gas, which when packaged under pressure for transportation is partially liquid at temperatures above -50 °C (-58 °F), is considered to be a liquefied compressed gas. A liquefied compressed gas is further categorized as follows: